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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,322	11/19/2003	David Thomas Dubberstein	135548UL (15028US01)	8265

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EXAMINER

JAWORSKI, FRANCIS J

ART UNIT	PAPER NUMBER
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3737

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/717,322

Applicant(s)

DUBBERSTEIN ET AL.

Examiner

Jaworski Francis J.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on IDS12-11-2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f):
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12112003 (2 sheets).
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

[Parenthesized claim number(s) pertain to the specific claim or claims being addressed by the immediately preceding rejection statement.]

Claims 1 - 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simopoulos et al (US6398733) and Thirsk (US5471990).

Simopoulos et al is directed to structure and

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a method for automatically adjusting multi-dimensional gain including gain associated with power Doppler (Col. 2 final para), including producing processed power Doppler data at output of 15 and processing the power data to produce a set of gain-compensated data and therefore path-attenuation-compensated data (Fig. 9 element 86, Fig. 10 element 118, Fig. 14 element 142, Fig. 15 element 166) which are at least in part time-gain compensation data (Since col. 1 lines 17 – 22 discuss the limitations of conventional time-gain control and discussion in col. 7 lines 18-22 with respect to Fig. 9 indicates that equalization of colorized display value with depth is being addressed.).

While Simopoulos et al is per se silent as to wall-filtering in the signal processing prior to the back-end gain mapping, it would have been obvious in view of Thirsk to provide a wall filter in Simopoulos et al since wall filtering (20) conventionally precedes the Doppler power estimation which is then input to the back-end adjustment portion as is also the case in the Thirsk patent face figure. In the alternative, Simopoulos et al may be viewed as directed to full automation and multi-dimensionalization of the manual color gain adjustment in Thirsk. (Claims 1, 10).

Since Thirsk further notes in col. 1 lines 35 – 40 that an intrinsic advantage of power Doppler over velocity Doppler is that the former may provide stable measurement by time-averaging of data values, this would hold whether the data values are pre or post-gain compensated. Simopoulos et al similarly act on mean values of intensity signals. (Claim 2).

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Thirsk additionally teaches that color power display may be scaled from such a time-averaged set tantamount to division or fractional multiplication in order to accommodate the specific physiologic application, see Col. 3 line 43 – col. 4 line 23. (Claims 5 – 7, 16 - 18).

In Simopoulos et al of itself, the local mean of intensity and/or spatial filtering is used to provide an average intensity value at a given pixel with signal contributions therefore along depth and lateral adjacent scan lines and additionally front-end gain adjustments are used, see col. 2 lines 35 - 39. (Claims 8 – 9, 11 – 12, 19 - 20).

Simopoulos et al operates in dB, see col. 8 line 45 for example. (Claim 13).

Thirsk suggests that a peak or maximum value can serve for these gain adjustments (col. 1 line 39) with respect to noise level. (Claims 3 – 4, 14 - 15

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 571-272-4738.


Francis J. Jaworski
Primary Examiner

FJJ:fjj

11-24-2004